PREPRODUCTION INITIATIVE-NELP
AQUEOUS PARTS WASHER (SMALL)
TEST PLAN

SITE: NS MAYPORT

1.0 OBJECTIVE

This test plan describes the process data collection procedure for the aqueous parts washers. The data will be used to determine the systems' efficiency, effectiveness, overall performance, and ability to interface successfully with site operations. Recommendations for fleetwide purchase will be based on your input.

2.0 DESCRIPTION

Currently, AIMD Airframe parts are cleaned in a P-D-680 dip tank. These parts include aircraft tires (rims) and panels, which are manually scrubbed using P-D-680—a known health hazard. The closed-loop aqueous parts washing system will eliminate consumption of this hazardous solvent and reduce labor hours and frequency of solvent disposal—saving both time and money.

3.0 TEST PLAN

This test plan will be used to evaluate the effectiveness of the aqueous parts washer units compared to current manual washing methods.

3.1 Approach

Quantitative and qualitative data will be acquired by completion of Tables 1 and 2.

3.1.1 Instructions for Completing Table 1

- **Date:** Indicate dates the aqueous parts washer unit was used (month and day).
- **Item Use**
  - **Parts Washed:** List parts washed for each date entered.
  - **Quantity:** Indicate the quantity or volume of parts washed for each date entered.
  - **Frequency:** Indicate the frequency of usage on a given date (*e.g.,* 1, 2, 3 times).
- **Quantity Consumables Used:** Indicate the quantity or volume of consumables (*e.g.*, detergent and defoamer) added to the unit for each date entered.

- **Time/Task:** Indicate the time required to complete each task (*e.g.*, the cycle time per batch of parts).

- **Downtime/Month**

  - **Time Period:** Record time periods when the unit is not in use.

  - **Reason:** Explain whether downtime was due to repairs, maintenance, workload, or other factors.

- **Repair Time:** Indicate time required to repair the unit.

- **Repair Parts Required and Cost:** List repair parts required and cost.

- **Consumables Ordered:** Record dates consumables were ordered as well as the type, quantity, and cost.

- **Qualitative Assessment:** Provide a narrative evaluation of the cleaning abilities of the aqueous parts washer unit. Briefly discuss:

  - Efficiency of this method (*e.g.*, time and cost savings)

  - Ease of use and the unit's ability to successfully interface with site parts cleaning operations

  - Overall satisfaction with the cleanliness of the parts (compared to parts washed by previous methods)

  - State method of determining cleanliness, as well as any additional cleaning required after wash.

3.1.2 Instructions for Completing Table 2

- **Date:** Indicate dates the aqueous parts washer was used (month and day).

- **Operating Water Temperature:** Indicate water temperature at which the unit was used for each day recorded.

- **Operating Water Pressure**: Indicate water pressure at which the unit was used for each day recorded.

- **Contaminants Removed:** List contaminants removed through entrapment in filter, sludge collection, and dissolution in wastewater.

- **Flash Rust of Steel Parts:** Based on visual observation, indicate "yes" or "no" if there is evidence of flash rust of steel parts. If "yes," list the specific parts that experienced flash rust in the Qualitative Assessment section.

- **Water Pressure Damage:** Based on visual observation, indicate "yes" or "no" if parts were damaged due to water pressure. If "yes," list the specific parts that experienced water pressure damage in the Qualitative Assessment section.

- **Detergent Retention:** Based on visual observation, indicate "yes" or "no" if there is evidence of detergent retention on washed parts. If "yes," list the specific parts that had evidence of detergent retention in the Qualitative Assessment section.

- **Water Entrapment in Parts:** Based on visual observation, indicate "yes" or "no" if parts were damaged due to water entrapment. If "yes," list the specific parts that experienced water entrapment in the Qualitative Assessment section.

- **Solution Foaming:** Based on visual observation, indicate "yes" or "no." Record any further comments in the Qualitative Assessment section.

- **Interior Corrosion of Unit:** Based on visual observation, indicate "yes" or "no." Record any further comments in the Qualitative Assessment section; note the exact location of the corrosion.

- **Qualitative Assessment:** Include specific details on any of the above sections marked "yes."

4.0 REPORTING

The data entry forms are a concise method of data collection. Forms should be completed on a daily basis. Data will be collected for 1 year. During this time, periodic status reports on the testing will be submitted to NAWCADLKE. The final report will include detailed results and observations, assess the efficiency and cost-effectiveness of the unit, and evaluate its ability to interface with site operations.

Table 1

Date	Item Use			Quantity Consumables Used	Time/Task	Downtime/Month		Repair Time	Repair Parts Required and Cost
	Parts Washed	Quantity	Frequency			Time Period	Reason		

Consumables Ordered

Date	Type	Quantity	Cost

Qualitative Assessment*:

Please comment on the effectiveness and efficiency of the unit.

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*Attach extra sheet if required

Table 2

Date	Operating Water Temperature	Operating Water Pressure	Contaminants Removed	Flash Rust of Steel Parts	Water Pressure Damage	Detergent Retention	Water Entrapment in Parts	Solution Foaming	Interior Corrosion of Unit

Qualitative Assessment*:
Provide details on any questions answered "yes."

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*Attach extra sheets if required.